Felton, Michael J.

From: Fuller, Kathleen
Sent: Thursday, March 29, 2007 10:26 AM
To: Felton, Michael J.
Subject: 10/532138

FEL532.rtf

There is only one reference, the applicant, for the elected compound. The compound and the reference are at the beginning of the search. I then did a structure search which covered the broad structure of claim 1. There were 31 structures and 29 Chemical Abstract references to the structures. With utility there were 10 CA references. Answer 4 is the applicant. Answer 6 has a good date and structure.
If you have any questions give me a call.

Kathleen Fuller
team leader EIC1700
Remsen 4B28
571/272-2505

=> FILE REG
FILE 'REGISTRY' ENTERED AT 09:56:03 ON 29 MAR 2007

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 28 MAR 2007 HIGHEST RN 928615-67-2
DICTIONARY FILE UPDATES: 28 MAR 2007 HIGHEST RN 928615-67-2

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH December 2, 2006

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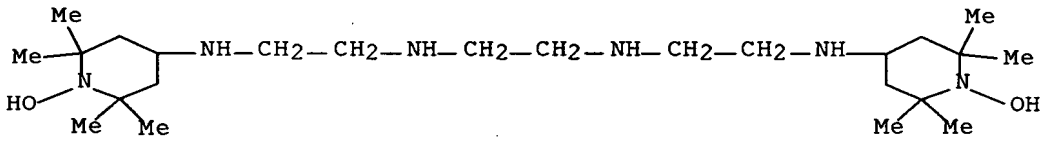
REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

=> D L3

L3 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2007 ACS on STN
RN **685847-54-5** REGISTRY
ED Entered STN: 26 May 2004
CN 1,2-Ethanediamine, N,N'-bis[2-[(1-hydroxy-2,2,6,6-tetramethyl-4-piperidinyl)amino]ethyl]-, hexahydrochloride (9CI) (CA INDEX NAME)
OTHER NAMES:
CN TETA 2TEMPOH6HCl
MF **C24 H52 N6 O2 . 6 Cl H**
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
CRN (792906-65-1)



●6 HCl

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> FILE HCAPLU
FILE 'HCAPLUS' ENTERED AT 09:56:28 ON 29 MAR 2007

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 29 Mar 2007 VOL 146 ISS 14
FILE LAST UPDATED: 28 Mar 2007 (20070328/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> D QUE L4
L2 12 SEA FILE=REGISTRY ABB=ON (2896-70-0/BI OR 112-24-3/BI OR 14691-88-4/BI OR 213474-29-4/BI OR 4067-16-7/BI OR 685517-02-6/BI OR 685847-53-4/BI OR 685847-54-5/BI OR 75577-94-5/BI OR 7647-01-0/BI OR 826-36-8/BI OR 9002-98-6/BI)
L3 1 SEA FILE=REGISTRY ABB=ON L2 AND C24H52N6O2.6CLH/MF
L4 1 SEA FILE=HCAPLUS ABB=ON L3

=> D L4 ALL HITSTR

L4 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:371123 HCAPLUS Full-text
DN 140:392561
ED Entered STN: 07 May 2004
TI Light-stable and process-stable lignocellulosic materials and their production
IN Williams, Trevor; Hu, Thomas Qiuxiong; Pikulik, Ivan Ignac
PA Pulp and Paper Research Institute of Canada, Can.
SO PCT Int. Appl., 50 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM D21C009-10
CC 43-6 (Cellulose, Lignin, Paper, and Other Wood Products)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2004038091	A1	20040506	WO 2003-CA1606	20031021

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,

KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

CA 2502911		A1	20040506	CA 2003-2502911	20031021
AU 2003275827		A1	20040513	AU 2003-275827	20031021
US 2005269049		A1	20051208	US 2005-532138	20050420
PRAI US 2002-420282P		P	20021023		
WO 2003-CA1606		W	20031021		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2004038091	ICM	D21C009-10
	IPCI	D21C0009-10 [ICM,7]
	IPCR	C08G0073-00 [I,C*]; C08G0073-00 [I,A]; C08G0073-02 [I,A]; C08H0005-00 [I,C*]; C08H0005-04 [I,A]; D21C0009-10 [I,C*]; D21C0009-10 [I,A]; D21C0009-16 [N,C*]; D21C0009-16 [N,A]
	ECLA	C08G073/00; C08G073/02; C08G073/02A9C; C08H005/04; D21C009/10F8
CA 2502911	IPCI	D21C0009-10 [ICM,7]
	IPCR	C08G0073-00 [I,C*]; C08G0073-00 [I,A]; C08G0073-02 [I,A]; C08H0005-00 [I,C*]; C08H0005-04 [I,A]; D21C0009-10 [I,C*]; D21C0009-10 [I,A]; D21C0009-16 [N,C*]; D21C0009-16 [N,A]
	ECLA	C08G073/00; C08G073/02; C08G073/02A9C; C08H005/04; D21C009/10F8
AU 2003275827	IPCI	D21C0009-10 [ICM,7]
	IPCR	C08G0073-00 [I,C*]; C08G0073-00 [I,A]; C08G0073-02 [I,A]; C08H0005-00 [I,C*]; C08H0005-04 [I,A]; D21C0009-10 [I,C*]; D21C0009-10 [I,A]; D21C0009-16 [N,C*]; D21C0009-16 [N,A]
US 2005269049	IPCI	D21C0009-10 [ICM,7]
	IPCR	D21C0009-10 [I,C*]; D21C0009-10 [I,A]
	NCL	162/072.000; 162/078.000; 162/162.000

AB A novel method for the production of light-stable and process-stable lignocellulosic materials, in particular, the production of mech. wood pulps with much improved light and process stability is described, as well as the resulting pulps of improved light and process stability and papers containing such pulps. The novel method involves the reaction of lignocellulosic materials such as bleached chemithermomech. pulps (BCTMP) with (a) a water-soluble, fiber-reactive yellowing inhibitor possessing two or more secondary amino or ammonium, tertiary amino or ammonium, and/or quaternary ammonium functional groups in an aqueous medium, or (b) a water-soluble, fiber-reactive hindered amine light stabilizer possessing said amino or ammonium functional groups in an alkaline peroxide bleaching medium or in an aqueous medium with a subsequent bleaching of the materials in an alkaline peroxide bleaching medium. Examples of the water-soluble, fiber-reactive yellowing inhibitors are the novel, N-(2,2,6,6-tetramethyl- 1-oxyl-piperidin-4-yl)-N'-{2-[2-(2,2,6 ,6-tetramethyl-1-oxyl-piperidin-4- ylamino)-ethylamino]-ethyl}-ethane-1,2-diamine (TETA-2TEMPO) and its hydroxylamine hydrochloride derivative, N-(2,2,6,6-tetramethyl-1-hydroxyl- piperidin-4-yl)-N'-{2-[2-(2 ,2,6,6-tetramethyl-1-hydroxyl-piperidin-4- ylamino)-ethylamino]-ethyl}-ethane-1,2-diamine hexahydrochloride (TETA-2TEMPOH-6HCl).

ST yellowing inhibitor lignocellulosic pulp light stabilizer tetramethylpiperidine oxyl compd; hindered amine quaternary ammonium compd reactive light stabilizer BCTMP; alk peroxide bleaching reactive hindered amine light stabilizer pulp; modified TEMPO deriv yellow prevention light stabilizer pulp

IT Cellulose pulp
(chemithermomech.; manufacture of hindered amine compds. useful for

yellowing prevention of mech. pulp)

IT Polyamines
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(hindered amine derivs.; manufacture of hindered amine compds. useful for yellowing prevention of mech. pulp)

IT Amines, uses
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(hindered; manufacture of hindered amine compds. useful for yellowing prevention of mech. pulp)

IT UV stabilizers
Yellowing prevention
(manufacture of hindered amine compds. useful for yellowing prevention of mech. pulp)

IT Quaternary ammonium compounds, uses
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(manufacture of hindered amine compds. useful for yellowing prevention of mech. pulp)

IT Pulp bleaching
(peroxide; manufacture of hindered amine compds. useful for yellowing prevention of mech. pulp)

IT 213474-29-4P, 4-Amino-TEMPO 2HCl
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(4-amino-TEMPO 2HCl; manufacture of hindered amine compds. useful for yellowing prevention of mech. pulp)

IT 685847-53-4P, TETA 2TEMPO
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(TETA 2TEMPO; manufacture of hindered amine compds. useful for yellowing prevention of mech. pulp)

IT **685847-54-5P**, TETA 2TEMPOH6HCl
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(TETA 2TEMPOH6HCl; manufacture of hindered amine compds. useful for yellowing prevention of mech. pulp)

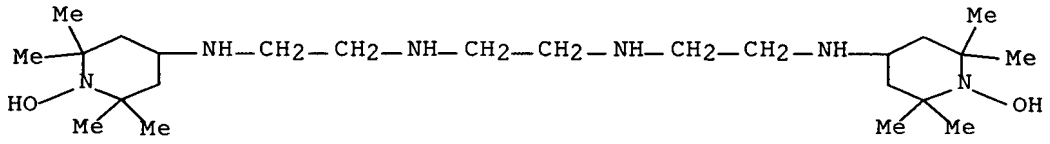
IT 2896-70-0DP, 4-Oxo-TEMPO, reaction products polyethyleneimines
9002-98-6DP, Aziridine polymer, reaction products with 4-oxo-TEMPO
75577-94-5P 685517-02-6P
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(manufacture of hindered amine compds. useful for yellowing prevention of mech. pulp)

IT 112-24-3, Triethylenetetramine 826-36-8, 2,2,6,6-Tetramethyl-4-piperidone 2896-70-0, 4-Oxo-2,2,6,6-tetramethylpiperidine-N-oxyl
4067-16-7, Pentaethylenehexamine 7647-01-0, Hydrochloric acid, reactions
14691-88-4, 4-Amino-2,2,6,6-tetramethylpiperidine-N-oxyl
RL: RCT (Reactant); RACT (Reactant or reagent)
(manufacture of hindered amine compds. useful for yellowing prevention of mech. pulp)

IT **685847-54-5P**, TETA 2TEMPOH6HCl
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(TETA 2TEMPOH6HCl; manufacture of hindered amine compds. useful for yellowing prevention of mech. pulp)

RN 685847-54-5 HCAPLUS

CN 1,2-Ethanediamine, N,N'-bis[2-[(1-hydroxy-2,2,6,6-tetramethyl-4-piperidinyl)amino]ethyl]-, hexahydrochloride (9CI) (CA INDEX NAME)



●6 HCl

=> => FILE REG
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STRUCTURE FILE UPDATES: 28 MAR 2007 HIGHEST RN 928615-67-2
DICTIONARY FILE UPDATES: 28 MAR 2007 HIGHEST RN 928615-67-2

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TSCA INFORMATION NOW CURRENT THROUGH December 2, 2006

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

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=> FILE HCAPLU
FILE 'HCAPLUS' ENTERED AT 09:58:16 ON 29 MAR 2007
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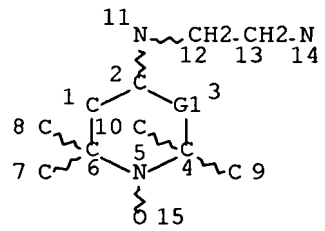
FILE COVERS 1907 - 29 Mar 2007 VOL 146 ISS 14
FILE LAST UPDATED: 28 Mar 2007 (20070328/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> D QUE
L10 STR



REP G1=(0-1) CH2
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 15

STEREO ATTRIBUTES: NONE

L12	31	SEA FILE=REGISTRY SSS FUL L10
L14	29	SEA FILE=HCAPLUS ABB=ON L12
L15	4	SEA FILE=HCAPLUS ABB=ON L14 AND (?CELLULOS? OR PAPER? OR WOOD? OR PULP OR PAPER?)/SC,SX,AB,BI
L16	3	SEA FILE=HCAPLUS ABB=ON L14 AND ?CELLULOS?
L17	4	SEA FILE=HCAPLUS ABB=ON L15 OR L16
L18	3	SEA FILE=HCAPLUS ABB=ON L14 AND YELLOW?
L19	4	SEA FILE=HCAPLUS ABB=ON L17 OR L18
L20	23	SEA FILE=HCAPLUS ABB=ON L14(L)PREP/RL
L21	2	SEA FILE=HCAPLUS ABB=ON L14 AND PULPS
L22	10	SEA FILE=HCAPLUS ABB=ON L14 AND STAB?
L23	5	SEA FILE=HCAPLUS ABB=ON L14 AND STAB?(4A)(LIGHT? OR PHOTO?)
L24	6	SEA FILE=HCAPLUS ABB=ON L19 OR L21 OR L23
L25	9	SEA FILE=HCAPLUS ABB=ON L22 AND L20
L26	10	SEA FILE=HCAPLUS ABB=ON L24 OR L25

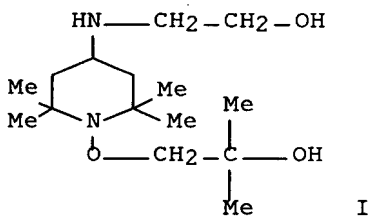
=> D L26 BIB ABS IND HITSTR 1-10

L26 ANSWER 1 OF 10 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:1242721 HCAPLUS Full-text
DN 144:8150
TI Water-compatible sterically hindered alkoxyamines and hydroxy-substituted alkoxyamines
IN Wood, Mervin G.; Detlefsen, Robert; Galbo, James; Martin, Wanda; Kondracki, Paul; Difazio, Michael P.; Babiarz, Joseph E.
PA USA
SO U.S. Pat. Appl. Publ., 45 pp., Cont.-in-part of U.S. Ser. No. 782,524.
CODEN: USXXCO
DT Patent

LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2005261401	A1	20051124	US 2005-136792	20050525
	US 2004210056	A1	20041021	US 2004-782524	20040219
PRAI	US 2003-450262P	P	20030226		
	US 2004-782524	A2	20040219		

OS MARPAT 144:8150
GI



I

AB 2,2,6,6-Piperidine derivs. having 1 or 2 2,2,6,6-piperidine groups, water-compatible groups at the 4-position, and (hydroxy-substituted) alkoxy groups at the 1-position are useful for **stabilizing** aqueous polymer systems such as coatings, inks, and photocured systems against light, heat, and oxygen. A typical **stabilizer** I was manufactured by reaction of 4-hydroxy-1-(2-hydroxy-2-methylpropoxy)-2,2,6,6- tetramethylpiperidine with ethanolamine.

IC ICM C08K005-34
ICS C03C017-00; C09D011-00
INCL 524099000; 523160000; 523161000
CC 42-5 (Coatings, Inks, and Related Products)
Section cross-reference(s): 37
ST water compatible tetramethylpiperidine deriv **light stabilizer**; waterborne coating ink tetramethylpiperidine deriv **light stabilizer**; photocurable aq polymer system tetramethylpiperidine deriv **light stabilizer**; heat **stabilizer** water compatible tetramethylpiperidine deriv; antioxidant water compatible tetramethylpiperidine deriv
IT Acrylic polymers, uses
Polyurethanes, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(coating binder; water-compatible sterically hindered (hydroxy-substituted) alkoxytetramethylpiperidine derivs. for **stabilizing** aqueous polymer-containing systems against heat, light and oxygen for textiles)
IT Amines, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(hindered; water-compatible sterically hindered (hydroxy-substituted) alkoxytetramethylpiperidine derivs. for **stabilizing** aqueous polymer-containing systems against heat, light and oxygen)
IT Inks
(jet-printing, water-thinned; water-compatible sterically hindered (hydroxy-substituted) alkoxytetramethylpiperidine derivs. for **stabilizing** aqueous polymer-containing systems against heat, light and oxygen)

IT Printing (nonimpact)
(**paper**, water-thinned ink-receiving layers; water-compatible sterically hindered (hydroxy-substituted) alkoxytetramethylpiperidine derivs. for **stabilizing** aqueous polymer-containing systems against heat, light and oxygen)

IT Polyoxyalkylenes, uses
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(tetramethylpiperidine derivs.; water-compatible sterically hindered (hydroxy-substituted) alkoxytetramethylpiperidine derivs. for **stabilizing** aqueous polymer-containing systems against heat, light and oxygen for textiles)

IT Antioxidants
Heat **stabilizers**
Light stabilizers
Mouthwashes
Shampoos
(water-compatible sterically hindered (hydroxy-substituted) alkoxytetramethylpiperidine derivs. for **stabilizing** aqueous polymer-containing systems against heat, light and oxygen)

IT Laminated plastics, uses
RL: POF (Polymer in formulation); USES (Uses)
(water-compatible sterically hindered (hydroxy-substituted) alkoxytetramethylpiperidine derivs. for **stabilizing** aqueous polymer-containing systems against heat, light and oxygen)

IT Household furnishings
(water-compatible sterically hindered (hydroxy-substituted) alkoxytetramethylpiperidine derivs. for **stabilizing** aqueous polymer-containing systems against heat, light and oxygen for household furnishings)

IT Textiles
(water-compatible sterically hindered (hydroxy-substituted) alkoxytetramethylpiperidine derivs. for **stabilizing** aqueous polymer-containing systems against heat, light and oxygen for textiles)

IT Adhesives
Coating materials
(water-thinned; water-compatible sterically hindered (hydroxy-substituted) alkoxytetramethylpiperidine derivs. for **stabilizing** aqueous polymer-containing systems against heat, light and oxygen)

IT 756499-51-1P, Bahydrol VP LS 2235-Bayhydur XP-7165 copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(coating binder; water-compatible sterically hindered (hydroxy-substituted) alkoxytetramethylpiperidine derivs. for **stabilizing** aqueous polymer-containing systems against heat, light and oxygen)

IT 113441-06-8, NeoCryl BT 520 192948-73-5, NeoPac R 9699
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(coating binder; water-compatible sterically hindered (hydroxy-substituted) alkoxytetramethylpiperidine derivs. for **stabilizing** aqueous polymer-containing systems against heat, light and oxygen)

IT 754198-82-8P 754198-93-1P 754198-94-2P 754198-95-3P 754198-96-4P 754199-03-6P 754199-05-8P 754199-10-5P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(precursor; water-compatible sterically hindered (hydroxy-substituted) alkoxytetramethylpiperidine derivs. for **stabilizing** aqueous

polymer-containing systems against heat, light and oxygen)

IT 56-40-6, Glycine, reactions 56-41-7, Alanine, reactions 63-68-3, Methionine, reactions 89-54-3, 5-Amino-2-chlorobenzoic acid 96-35-5, Methyl glycolate 107-35-7, Taurine 108-00-9, N,N-Dimethylethylenediamine 112-24-3, Triethylenetetramine 121-57-3, Sulfanilic acid 140-31-8, 1-(2-Aminoethyl)piperazine 141-43-5, Ethanolamine, reactions 141-97-9, Ethyl acetoacetate 929-59-9 1070-34-4, Succinic acid monoethyl ester 1120-71-4, Propanesultone 1906-82-7, Ethyl acetamidoacetate 2110-78-3, Methyl 2-hydroxyisobutyrate 4244-84-2 33229-89-9, N,N-Dimethylglycine ethyl ester 122586-98-5 122587-12-6 290821-83-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(precursor; water-compatible sterically hindered (hydroxy-substituted) alkoxytetramethylpiperidine derivs. for **stabilizing** aqueous polymer-containing systems against heat, light and oxygen)

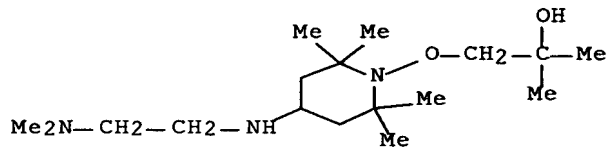
IT 65605-36-9DP, reaction products with tetramethylpiperidinone (derivs.) 83713-01-3DP, reaction products with tetramethylpiperidinone (derivs.) 122586-98-5DP, reaction products with polypropylene glycol diamine 290821-85-1P 754198-80-6P 754198-84-0P **754198-85-1P** 754198-87-3P 754198-88-4P 754198-90-8P 754198-91-9P 754198-92-0P 754198-98-6P 754198-99-7P 754199-00-3P 754199-01-4P 754199-04-7P 754199-08-1P 754199-09-2P 754199-11-6P 869843-42-5P
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(water-compatible sterically hindered (hydroxy-substituted) alkoxytetramethylpiperidine derivs. for **stabilizing** aqueous polymer-containing systems against heat, light and oxygen)

IT 826-36-8DP, 2,2,6,6-Tetramethylpiperidin-4-one, reaction products with polypropylene glycol diamine 9046-10-0DP, Jeffamine D-400, reaction products with tetramethylpiperidinone (derivs.) 754198-81-7P 754198-89-5P 754199-02-5P 794470-62-5P 869843-41-4P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(water-compatible sterically hindered (hydroxy-substituted) alkoxytetramethylpiperidine derivs. for **stabilizing** aqueous polymer-containing systems against heat, light and oxygen)

IT **754198-85-1P**
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(water-compatible sterically hindered (hydroxy-substituted) alkoxytetramethylpiperidine derivs. for **stabilizing** aqueous polymer-containing systems against heat, light and oxygen)

RN 754198-85-1 HCAPLUS

CN 2-Propanol, 1-[[4-[[2-(dimethylamino)ethyl]amino]-2,2,6,6-tetramethyl-1-piperidinyl]oxy]-2-methyl- (9CI) (CA INDEX NAME)



L26 ANSWER 2 OF 10 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2005:1108509 HCAPLUS Full-text

DN 144:24093
TI Design, synthesis and studies of **yellowing** inhibitors with high affinity to mechanical **pulps**
AU Hu, T. Q.; Williams, T.; Pikulik, I. I.; Schmidt, J. A.
CS Paprican, Vancouver, BC, V6S 2L9, Can.
SO Journal of Pulp and Paper Science (2005), 31(3), 109-115
CODEN: JPUSDN; ISSN: 0826-6220
PB Pulp and Paper Technical Association of Canada
DT Journal
LA English
AB 4-Amino-2,2,6,6-tetramethylpiperidine-1-oxyl (4-amino-TEMPO) is a hindered nitroxide **yellowing** inhibitor that can be attached readily to bleached mech. **pulps** in aqueous media, due largely to ionic bonding between its amino (-NH2) group and the **pulp** carboxyl (-COOH) groups. We have designed a new series of hindered nitroxide and hydroxylamine **yellowing** inhibitors possessing more than one amino group in the mols. One such inhibitor was synthesized by reductive amination of 4-oxo-2,2,6,6-tetramethylpiperidinyloxy (4-oxo-TEMPO) with triethylenetetramine and by further reduction with ethanol and hydrochloric acid, and characterized by 1H NMR, mass spectrometry and elemental anal. Bleached mech. **pulps** with this inhibitor attached showed a much higher **stability** in Ca2+-rich media, including precipitated calcium carbonate-laden mill white water, than those attached with a hydroxylamine derivative of 4-amino-TEMPO. The inhibitor prepared from 4-oxo-TEMPO and a polyethyleneimine provided a bleached thermomech. **pulp** sheet made from mill white water with a brightness **stabilization** of 24% after one month of an ambient light exposure.
CC 43-6 (**Cellulose**, Lignin, **Paper**, and Other **Wood** Products)
ST oxotetramethylpiperidine deriv **yellowing** inhibitor peroxide bleached mech **pulp**; mech **pulp** affinity Tempo deriv **yellowing** inhibitor
IT Polyamines
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(Tempo derivs.; synthesis and effectiveness of Tempo derivative **yellowing** inhibitors for hydrogen peroxide-bleached mech. **pulps** and affinity of these inhibitors to mech. **pulps** prior to and after treatment with various amines)
IT **Cellulose pulp**
(chemithermomech.; synthesis and effectiveness of Tempo derivative **yellowing** inhibitors for hydrogen peroxide-bleached mech. **pulps** and affinity of these inhibitors to mech. **pulps** prior to and after treatment with various amines)
IT **Cellulose pulp**
(kraft; synthesis and effectiveness of Tempo derivative **yellowing** inhibitors for **cellulose pulps**)
IT **Cellulose pulp**
(polysulfide; synthesis and effectiveness of Tempo derivative **yellowing** inhibitors for **cellulose pulps**)
IT Industrial waters
(recycled; synthesis and effectiveness of Tempo derivative **yellowing** inhibitors for hydrogen peroxide-bleached mech. **pulps** when **pulp** is in contact with recycled bleaching water containing calcium ions)
IT **Light stabilizers**
Whiteness
Yellowing
Yellowing prevention
(synthesis and effectiveness of Tempo derivative **yellowing** inhibitors for hydrogen peroxide-bleached mech. **pulps** and affinity of these inhibitors to mech. **pulps** prior to and

after treatment with various amines)

IT **Cellulose pulp**
(thermomech.; synthesis and effectiveness of Tempo derivative **yellowing** inhibitors for hydrogen peroxide-bleached mech. **pulps** and affinity of these inhibitors to mech. **pulps** prior to and after treatment with various amines)

IT 8064-26-4, **Holocellulose**
RL: PRP (Properties)
(**pulp** model; synthesis and effectiveness of Tempo derivative **yellowing** inhibitors for hydrogen peroxide-bleached mech. **pulps** and affinity of these inhibitors to mech. **pulps** prior to and after treatment with various amines)

IT 111-40-0DP, Diethylenetriamine, reaction products with **pulps**
112-24-3DP, Triethylenetetramine, reaction products with **pulps**
112-57-2DP, Tetraethylenepentamine, reaction products with **pulps**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(synthesis and effectiveness of Tempo derivative **yellowing** inhibitors for hydrogen peroxide-bleached mech. **pulps** and affinity of these inhibitors to mech. **pulps** prior to and after treatment with various amines)

IT 2896-70-0DP, 4-Oxo-Tempo, reaction products with polyethyleneimine
9002-98-6DP, reaction products with oxo-Tempo and with mech. **pulps**
685517-02-6P 870471-85-5P
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(synthesis and effectiveness of Tempo derivative **yellowing** inhibitors for hydrogen peroxide-bleached mech. **pulps** and affinity of these inhibitors to mech. **pulps** prior to and after treatment with various amines)

IT 14691-88-4, 4-Amino-Tempo 213474-29-4
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(synthesis and effectiveness of Tempo derivative **yellowing** inhibitors for hydrogen peroxide-bleached mech. **pulps** and affinity of these inhibitors to mech. **pulps** prior to and after treatment with various amines)

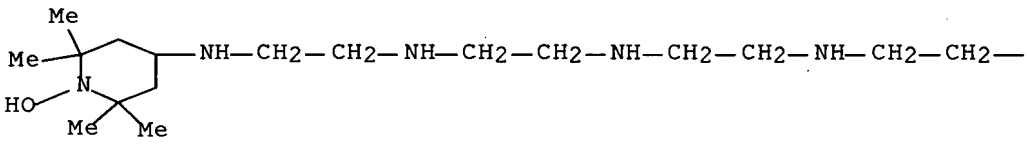
IT 112-24-3, Triethylenetetramine 2896-70-0, 4-Oxo-Tempo
870471-86-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis and effectiveness of Tempo derivative **yellowing** inhibitors for hydrogen peroxide-bleached mech. **pulps** and affinity of these inhibitors to mech. **pulps** prior to and after treatment with various amines)

IT **685847-53-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(synthesis and effectiveness of Tempo derivative **yellowing** inhibitors for hydrogen peroxide-bleached mech. **pulps** and affinity of these inhibitors to mech. **pulps** prior to and after treatment with various amines)

IT **685517-02-6P 870471-85-5P**
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(synthesis and effectiveness of Tempo derivative **yellowing** inhibitors for hydrogen peroxide-bleached mech. **pulps** and affinity of these inhibitors to mech. **pulps** prior to and after treatment with various amines)

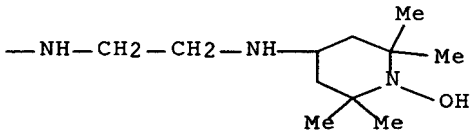
RN 685517-02-6 HCAPLUS
CN 3,6,9,12-Tetraazatetradecane-1,14-diamine, N,N'-bis(1-hydroxy-2,2,6,6-tetramethyl-4-piperidinyl)-, octahydrochloride (9CI) (CA INDEX NAME)

PAGE 1-A

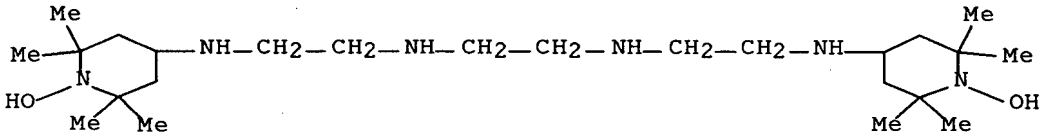


●8 HCl

PAGE 1-B



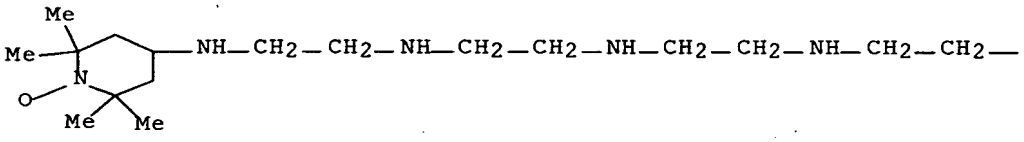
RN 870471-85-5 HCAPLUS
CN 1,2-Ethanediamine, N,N'-bis[2-[(1-hydroxy-2,2,6,6-tetramethyl-4-piperidinyl)amino]ethyl]-, dihydrochloride (9CI) (CA INDEX NAME)



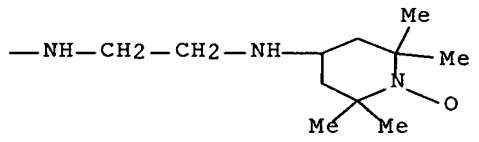
●2 HCl

IT **870471-86-6**
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis and effectiveness of Tempo derivative **yellowing** inhibitors for hydrogen peroxide-bleached mech. **pulps** and affinity of these inhibitors to mech. **pulps** prior to and after treatment with various amines)
RN 870471-86-6 HCAPLUS
CN 1-Piperidinyloxy, 4,4'-(3,6,9,12-tetraazatetradecane-1,14-diyldiimino)bis[2,2,6,6-tetramethyl- (9CI) (CA INDEX NAME)

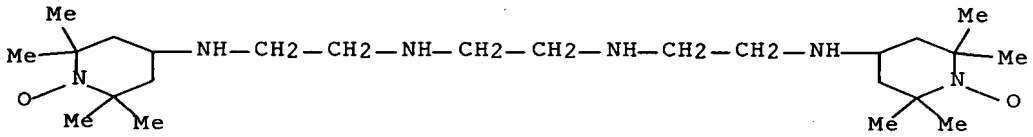
PAGE 1-A



PAGE 1-B



IT **685847-53-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(synthesis and effectiveness of Tempo derivative **yellowing** inhibitors for hydrogen peroxide-bleached mech. **pulps** and affinity of these inhibitors to mech. **pulps** prior to and after treatment with various amines)
RN 685847-53-4 HCAPLUS
CN 1-Piperidinyloxy, 4,4'-[1,2-ethanediylbis(imino-2,1-ethanediylimino)]bis[2,2,6,6-tetramethyl- (9CI) (CA INDEX NAME)

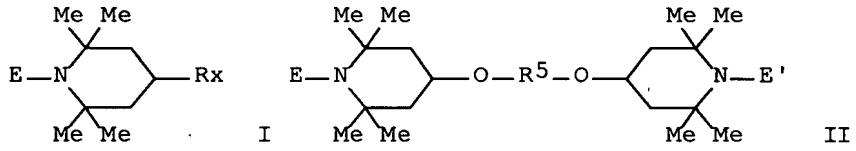


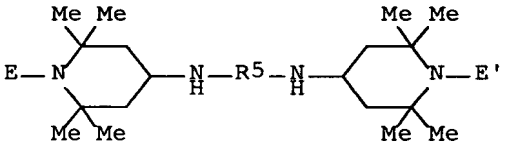
RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 3 OF 10 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:740301 HCAPLUS Full-text
DN 141:262140
TI Water compatible sterically hindered alkoxyamines and hydroxy substituted alkoxyamines, and **stabilized** compositions
IN Wood, Mervin Gale; Detlefsen, Robert Edward; Galbo, James Peter; Martin, De Wanda H.; Kondracki, Paul; Difazio, Michael Peter; Babiarz, Joseph Edmund
PA Ciba Specialty Chemicals Holding Inc., Switz.
SO PCT Int. Appl., 127 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2004076419	A1	20040910	WO 2004-EP50133	20040216
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2517334	A1	20040910	CA 2004-2517334	20040216

EP 1608620 A1 20051228 EP 2004-711379 20040216
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
CN 1753871 A 20060329 CN 2004-80004950 20040216
JP 2006522020 T 20060928 JP 2006-502028 20040216
PRAI US 2003-450262P P 20030226
WO 2004-EP50133 W 20040216
OS MARPAT 141:262140
GI





AB Sterically hindered alkoxyamine and hydroxy substituted alkoxyamine **stabilizer** compds. are made H2O compatible via certain backbones with affinity towards H2O. The exemplified sterically hindered amines I, II, III are prepared, where E and E' are 2-hydroxycyclohexyloxy, 2-hydroxy-2-methylpropoxy, benzyloxy, methoxy, propoxy, hexyloxy, heptyloxy, octyloxy or cyclohexyloxy, Rx = NH2+CH2CH2OH Cl-, -NH3+ -OAc, :NOH, -NHCHAcO-K+, NHCH2CH2NHMe2+ -OAC, -NHCH2CH2SO3-K+, -NHCH(COO- K+)CH2CH2SMe, -NHCH2COO-K+, -OCHAcO-K+, -OCH2CH2NHMe2+ -OAC, -OCH2CH2SO3-K+, -OCH(COO- K+)CH2CH2SMe or -OCH2COO-K+, and where Rs comprises repeating units of -(OCH2CH2)-, -(OCH2CH2Me)-, -(CH2CHCOOH)-, -(CH2CAcOH)-, -(CH2CHCOOMe)-, -(NHCH2CH2)-, -(CH2CHOH)-, -(CH2CHCONH2)- or -(CH2CH(NHCOH))-. These compds. are particularly effective in **stabilizing** aqueous polymer systems against the deleterious effects of oxidative, thermal and actinic radiation. The compds. are effective for example in **stabilizing** waterborne coatings, aqueous inks, aqueous ink jet media, and photocured aqueous systems.

IC ICM C07D211-94
ICS C07D401-14; C08K005-3435; C08K005-3492
CC 42-5 (Coatings, Inks, and Related Products)
Section cross-reference(s): 27, 37, 62, 74
ST waterborne ink coating **stabilizer** sterically hindered alkoxyamine
IT Adhesives
Cotton fibers
Laminated materials
Mouthwashes
Photographic emulsions
Shampoos
(water compatible sterically hindered alkoxyamines and hydroxy substituted alkoxyamine **stabilizers** for)
IT Ethylene-propylene rubber
Polycarbonates, uses

Polyurethanes, uses
Thermoplastic rubber
RL: POF (Polymer in formulation); USES (Uses)
(water compatible sterically hindered alkoxyamines and hydroxy substituted alkoxyamine **stabilizers** for)

IT Antioxidants
Heat **stabilizers**
Ink-jet recording sheets
Light stabilizers
(water compatible sterically hindered alkoxyamines and hydroxy substituted alkoxyamine **stabilizers** for coatings and inks)

IT Amines, uses
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(water compatible sterically hindered alkoxyamines and hydroxy substituted alkoxyamine **stabilizers** for coatings and inks)

IT Coating materials
Inks
(water-thinned; water compatible sterically hindered alkoxyamines and hydroxy substituted alkoxyamine **stabilizers** for)

IT 9010-79-1
RL: POF (Polymer in formulation); USES (Uses)
(ethylene-propylene rubber; water compatible sterically hindered alkoxyamines and hydroxy substituted alkoxyamine **stabilizers** for)

IT 9002-88-4, Polyethylene 9011-14-7, PMMA 24936-68-3, Lexan 141, uses 113441-06-8, Neocryl BT 520 149446-23-1 192948-73-5, Neopac R 9699 217484-26-9, Polytrope TPP 518-01 754199-14-9 756499-51-1
RL: POF (Polymer in formulation); USES (Uses)
(water compatible sterically hindered alkoxyamines and hydroxy substituted alkoxyamine **stabilizers** for)

IT 65605-36-9DP, reaction products with hindered amine 290821-85-1P
754198-80-6P 754198-81-7P 754198-82-8P 754198-83-9P 754198-84-0P
754198-86-2P 754198-87-3P 754198-88-4P 754198-89-5P
754198-90-8P 754198-91-9P 754198-92-0P 754198-93-1P 754198-94-2P
754198-95-3P 754198-96-4P 754198-98-6P 754198-99-7P 754199-00-3P
754199-01-4P 754199-02-5P 754199-03-6P 754199-04-7P 754199-05-8P
754199-06-9P 754199-07-0P 754199-08-1P 754199-09-2P 754199-10-5P
754199-11-6P 754199-12-7P 754199-13-8P 756487-79-3P 756487-81-7P
756487-83-9P
RL: IMF (Industrial manufacture); **PREP (Preparation)**
(water compatible sterically hindered alkoxyamines and hydroxy substituted alkoxyamine **stabilizers** for coatings and inks)

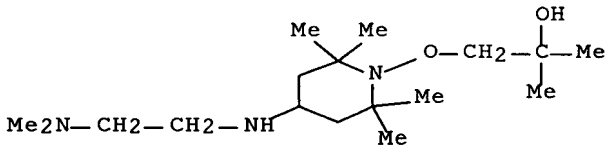
IT 9003-07-0, Polypropylene
RL: POF (Polymer in formulation); USES (Uses)
(water compatible sterically hindered alkoxyamines and hydroxy substituted alkoxyamine **stabilizers** for coatings and inks)

IT 56-40-6, Glycine, reactions 56-41-7, L-Alanine, reactions 63-68-3, Methionine, reactions 89-54-3, 5-Amino-2-chlorobenzoic acid 96-35-5, Methyl glycolate 107-15-3, Ethylenediamine, reactions 107-35-7, Taurine 140-31-8, 1-(2-Aminoethyl)piperazine 141-43-5, Ethanolamine, reactions 141-97-9, Ethyl acetoacetate 1120-71-4, Propanesultone 1906-82-7, Ethyl acetamidoacetate 2110-78-3 3878-55-5, Succinic acid monomethyl ester 4244-84-2, β-Alanine ethyl ester hydrochloride 5470-11-1, Hydroxylamine hydrochloride 7790-94-5, Chlorosulfonic acid 10563-26-5, N4 Amine 33229-89-9, N,N-Dimethylglycine ethyl ester 122587-12-6 290821-83-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(water compatible sterically hindered alkoxyamines and hydroxy substituted alkoxyamine **stabilizers** for coatings and inks)

IT **754198-86-2P**
RL: IMF (Industrial manufacture); **PREP (Preparation)**
(water compatible sterically hindered alkoxyamines and hydroxy substituted alkoxyamine **stabilizers** for coatings and inks)
RN 754198-86-2 HCAPLUS
CN 2-Propanol, 1-[[4-[[2-(dimethylamino)ethyl]amino]-2,2,6,6-tetramethyl-1-piperidinyl]oxy]-2-methyl-, monoacetate (salt) (9CI) (CA INDEX NAME)

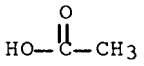
CM 1

CRN 754198-85-1
CMF C17 H37 N3 O2



CM 2

CRN 64-19-7
CMF C2 H4 O2



RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 4 OF 10 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:371123 HCAPLUS Full-text
DN 140:392561
TI **Light-stable** and process-**stable** **lignocellulosic** materials and their production
IN Williams, Trevor; Hu, Thomas Qiuxiong; Pikulik, Ivan Ignac
PA Pulp and Paper Research Institute of Canada, Can.
SO PCT Int. Appl., 50 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2004038091	A1	20040506	WO 2003-CA1606	20031021

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,

KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

CA	2502911	A1	20040506	CA 2003-2502911	20031021
AU	2003275827	A1	20040513	AU 2003-275827	20031021
US	2005269049	A1	20051208	US 2005-532138	20050420
PRAI US	2002-420282P	P	20021023		
	WO 2003-CA1606	W	20031021		

AB A novel method for the production of **light-stable** and process-**stable** **lignocellulosic** materials, in particular, the production of mech. **wood pulps** with much improved **light** and process **stability** is described, as well as the resulting **pulps** of improved **light** and process **stability** and **papers** containing such **pulps** . The novel method involves the reaction of **lignocellulosic** materials such as bleached chemithermomech. **pulps** (BCTMP) with (a) a water-soluble, fiber-reactive **yellowing** inhibitor possessing two or more secondary amino or ammonium, tertiary amino or ammonium, and/or quaternary ammonium functional groups in an aqueous medium, or (b) a water-soluble, fiber-reactive hindered amine **light stabilizer** possessing said amino or ammonium functional groups in an alkaline peroxide bleaching medium or in an aqueous medium with a subsequent bleaching of the materials in an alkaline peroxide bleaching medium. Examples of the water-soluble, fiber-reactive **yellowing** inhibitors are the novel, N-(2,2,6,6-tetramethyl-1-oxyl-piperidin-4-yl)-N'-{2-[2-(2,2,6,6-tetramethyl-1-oxyl-piperidin-4-ylamino)-ethylamino]-ethyl}-ethane-1,2-diamine (TETA-2TEMPO) and its hydroxylamine hydrochloride derivative, N-(2,2,6,6-tetramethyl-1-hydroxyl-piperidin-4-yl)-N'-{2-[2-(2 ,2,6,6-tetramethyl-1-hydroxyl-piperidin-4-ylamino)-ethylamino]-ethyl}- ethane-1,2-diamine hexahydrochloride (TETA-2TEMPOH-6HCl).

IC ICM D21C009-10

CC 43-6 (**Cellulose**, Lignin, **Paper**, and Other **Wood** Products)

ST **yellowing** inhibitor **lignocellulosic pulp** **light stabilizer** tetramethylpiperidine oxyl compd; hindered amine quaternary ammonium compd reactive **light** **stabilizer** BCTMP; alk peroxide bleaching reactive hindered amine **light stabilizer pulp**; modified TEMPO deriv **yellow** prevention **light stabilizer** **pulp**

IT **Cellulose pulp**
(chemithermomech.; manufacture of hindered amine compds. useful for **yellowing** prevention of mech. **pulp**)

IT Polyamines
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(hindered amine derivs.; manufacture of hindered amine compds. useful for **yellowing** prevention of mech. **pulp**)

IT Amines, uses
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(hindered; manufacture of hindered amine compds. useful for **yellowing** prevention of mech. **pulp**)

IT UV **stabilizers**
Yellowing prevention
(manufacture of hindered amine compds. useful for **yellowing** prevention of mech. **pulp**)

IT Quaternary ammonium compounds, uses
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(manufacture of hindered amine compds. useful for **yellowing** prevention of mech. **pulp**)

IT **Pulp** bleaching

(peroxide; manufacture of hindered amine compds. useful for **yellowing** prevention of mech. **pulp**)

IT 213474-29-4P, 4-Amino-TEMPO 2HCl
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(4-amino-TEMPO 2HCl; manufacture of hindered amine compds. useful for **yellowing** prevention of mech. **pulp**)

IT **685847-53-4P**, TETA 2TEMPO
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); **PREP (Preparation)**; USES (Uses)
(TETA 2TEMPO; manufacture of hindered amine compds. useful for **yellowing** prevention of mech. **pulp**)

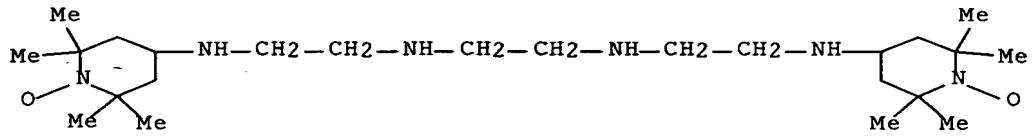
IT **685847-54-5P**, TETA 2TEMPOH6HCl
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); **PREP (Preparation)**; USES (Uses)
(TETA 2TEMPOH6HCl; manufacture of hindered amine compds. useful for **yellowing** prevention of mech. **pulp**)

IT 2896-70-0DP, 4-Oxo-TEMPO, reaction products polyethyleneimines
9002-98-6DP, Aziridine polymer, reaction products with 4-oxo-TEMPO
75577-94-5P **685517-02-6P**
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); **PREP (Preparation)**; USES (Uses)
(manufacture of hindered amine compds. useful for **yellowing** prevention of mech. **pulp**)

IT 112-24-3, Triethylenetetramine 826-36-8, 2,2,6,6-Tetramethyl-4-piperidone 2896-70-0, 4-Oxo-2,2,6,6-tetramethylpiperidine-N-oxyl
4067-16-7, Pentaethylenehexamine 7647-01-0, Hydrochloric acid, reactions
14691-88-4, 4-Amino-2,2,6,6-tetramethylpiperidine-N-oxyl
RL: RCT (Reactant); RACT (Reactant or reagent)
(manufacture of hindered amine compds. useful for **yellowing** prevention of mech. **pulp**)

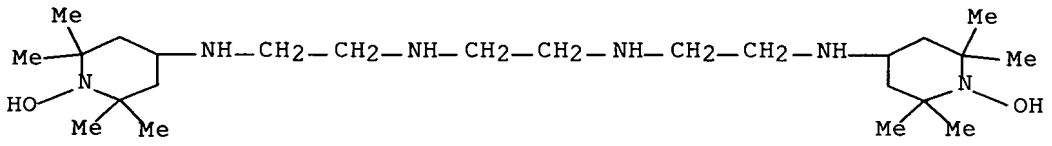
IT **685847-53-4P**, TETA 2TEMPO
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); **PREP (Preparation)**; USES (Uses)
(TETA 2TEMPO; manufacture of hindered amine compds. useful for **yellowing** prevention of mech. **pulp**)

RN 685847-53-4 HCAPLUS
CN 1-Piperidinyloxy, 4,4'-[1,2-ethanediylbis(imino-2,1-ethanediylimino)]bis[2,2,6,6-tetramethyl- (9CI) (CA INDEX NAME)



IT **685847-54-5P**, TETA 2TEMPOH6HCl
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); **PREP (Preparation)**; USES (Uses)
(TETA 2TEMPOH6HCl; manufacture of hindered amine compds. useful for **yellowing** prevention of mech. **pulp**)

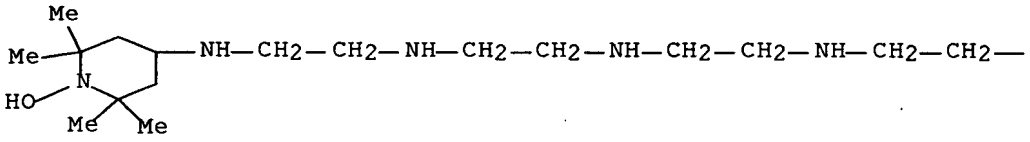
RN 685847-54-5 HCAPLUS
CN 1,2-Ethanediamine, N,N'-bis[2-[(1-hydroxy-2,2,6,6-tetramethyl-4-piperidinyl)amino]ethyl]-, hexahydrochloride (9CI) (CA INDEX NAME)



●6 HCl

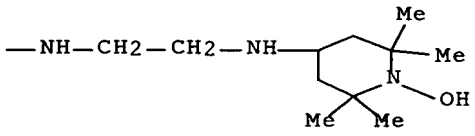
IT **685517-02-6P**
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); **PREP (Preparation)**; USES (Uses)
(manufacture of hindered amine compds. useful for **yellowing** prevention of mech. **pulp**)
RN 685517-02-6 HCAPLUS
CN 3,6,9,12-Tetraazatetradecane-1,14-diamine, N,N'-bis(1-hydroxy-2,2,6,6-tetramethyl-4-piperidinyl)-, octahydrochloride (9CI) (CA INDEX NAME)

PAGE 1-A



●8 HCl

PAGE 1-B



L26 ANSWER 5 OF 10 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2002:718019 HCAPLUS Full-text
DN 138:287634
TI Synthesis and structure optimization of double (fluorescent and spin) sensor molecules
AU Kalai, Tamas; Hankovszky, Olga H.; Hideg, Eva; Jeko, Jozsef; Hideg, Kalman
CS Institute of Organic and Medicinal Chemistry, University of Pecs, Pecs, H-7643, Hung.
SO ARKIVOC (Gainesville, FL, United States) [online computer file] (2002), (3), 112-120
CODEN: AGFUAR
URL: http://www.arkat-usa.org/ark/journal/2002/Lloyd/DL-297G/DL-297G.pdf
PB Arkat USA Inc.
DT Journal; (online computer file)
LA English
OS CASREACT 138:287634

AB Synthesis and fluorescence properties of **stable** nitroxide free radicals (101, 11a, 12a, 14a, 20a, 21a) and their amine (10b, 11b, 12b, 14b, 20b, 21b) precursors covalently linked to dansyl or 3- and 4-aminophthalimide are reported. The best intramol. quenching is achieved when the fluorophore and the nitroxide are in the closest possible position.

CC 28-18 (Heterocyclic Compounds (More Than One Hetero Atom))
Section cross-reference(s): 73

ST nitroxide free radical synthesis fluorescence property

IT Fluorescence
Fluorescent indicators
Fluorescent substances
(nitroxide free radicals for fluorescent and spin sensor mols. and synthesis thereof)

IT Nitroxides
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(nitroxide free radicals for fluorescent and spin sensor mols. and synthesis thereof)

IT 505074-66-8P 505074-68-0P 505074-69-1P 505074-77-1P 505074-78-2P
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis and fluorescence of nitroxide free radicals for fluorescent and spin sensor mols.)

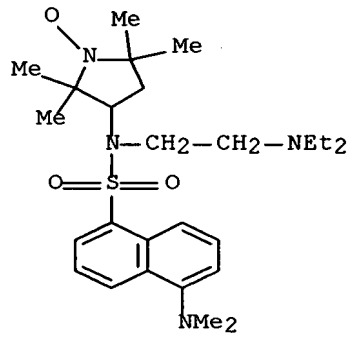
IT 207556-29-4P 505074-67-9P 505074-70-4P 505074-71-5P 505074-72-6P
505074-73-7P 505074-74-8P **505074-75-9P** 505074-76-0P
505074-79-3P 505074-80-6P 505074-81-7P 505074-82-8P
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(synthesis and fluorescence of nitroxide free radicals for fluorescent and spin sensor mols.)

IT 110-85-0, Piperazine, reactions 605-65-2 641-70-3 869-24-9, 2-(Diethylamino)ethyl chloride hydrochloride 5466-84-2 6820-93-5 14691-88-4 76841-99-1 76893-32-8 78140-48-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis and fluorescence of nitroxide free radicals for fluorescent and spin sensor mols.)

IT **505074-75-9P**
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(synthesis and fluorescence of nitroxide free radicals for fluorescent and spin sensor mols.)

RN 505074-75-9 HCAPLUS

CN 1-Pyrrolidinyloxy, 3-[[2-(diethylamino)ethyl][[5-(dimethylamino)-1-naphthalenyl]sulfonyl]amino]-2,2,5,5-tetramethyl- (9CI) (CA INDEX NAME)



RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 6 OF 10 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2001:208339 HCAPLUS Full-text
DN 134:239192
TI Polymeric **stabilizers** with high affinity to **pulp**
IN Cunkle, Glen Thomas; Devore, David; Thompson, Thomas Friend
PA Ciba Specialty Chemicals Holding Inc., Switz.
SO PCT Int. Appl., 39 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001019897	A1	20010322	WO 2000-EP8749	20000907
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2383005	A1	20010322	CA 2000-2383005	20000907
	BR 2000014046	A	20020521	BR 2000-14046	20000907
	EP 1216269	A1	20020626	EP 2000-962454	20000907
	EP 1216269	B1	20031029		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
	JP 2003509555	T	20030311	JP 2001-523672	20000907
	AT 253094	T	20031115	AT 2000-962454	20000907
	AU 770858	B2	20040304	AU 2000-74179	20000907
	US 6416627	B1	20020709	US 2000-658923	20000911
	ZA 2002002026	A	20021003	ZA 2002-2026	20020312
PRAI	US 1999-154111P	P	19990915		
	WO 2000-EP8749	W	20000907		

AB The polymeric **stabilizers** preventing loss of brightness and enhancing **yellowing** resistance to in **pulp** or **paper** have a pendant nitroxide, hydroxylamine or hydroxyammonium salt groups B are water soluble or water dispersible and have high affinity to **pulp** or **paper**. Thus, adipic acid-diethylenetriamine copolymer 10 g (50% aqueous solution) was reacted with four 0.54 g aliquots of 1-oxyl-2,2,6,6-tetramethyl-4-glycidyloxypiperidine to give a product, showing post color nos. 1.5 and 10.6 when peroxide-bleached softwood thermomech. **pulp** (BTMP) was treated with 1.0% of the compound, comparing 3.0 and 19.2 for a blank sample.

IC ICM C08G073-02
ICS C08G073-06; D21H021-14

CC 43-6 (**Cellulose**, Lignin, **Paper**, and Other **Wood** Products)

ST **pulp** oxyltetramethylglycidyloxypiperidine polymeric **stabilizer**

IT Polyamines
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(polyamide-; this polymeric **stabilizers** with high affinity to **pulp**)

IT Polyamides, uses

RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(polyamine-; this polymeric **stabilizers** with high affinity to **pulp**)

IT Polyamines
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(polymeric **stabilizers** with high affinity to **pulp**)

IT **Cellulose pulp**
(thermomech.; polymeric **stabilizers** with high affinity to **pulp**)

IT **Stabilizing** agents
(this polymeric **stabilizers** with high affinity to **pulp**)

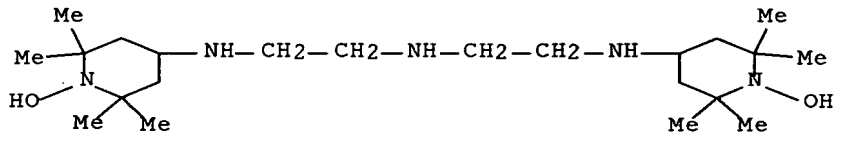
IT 2039-80-7DP, polymers, reaction products with 1-hydroxy-2,2,6,6-tetramethyl-4-glycidyloxypiperidine 2439-35-2DP, polymers, reaction products with 1-oxyl-2,2,6,6-tetramethyl-4-glycidyloxypiperidine 2896-70-0DP, reaction products with polyethylenimine 24936-45-6DP, polymers, reaction products with 1-hydroxy-2,2,6,6-tetramethyl-4-glycidyloxypiperidine 25085-20-5DP, Adipic acid-diethylenetriamine copolymer, reaction products with 1-oxyl-2,2,6,6-tetramethyl-4-glycidyloxypiperidine 25988-97-0DP, Dimethylamine-epichlorohydrin copolymer, reaction products with 1-oxyl-2,2,6,6-tetramethyl-4-glycidyloxypiperidine 28574-59-6DP, reaction products with 1-oxyl-2,2,6,6-tetramethyl-4-glycidyloxypiperidine 32126-84-4DP, Adipic acid-diethylenetriamine copolymer sru, reaction products with 1-oxyl-2,2,6,6-tetramethyl-4-glycidyloxypiperidine 69824-11-9DP, reaction products with 1-oxyl-2,2,6,6-tetramethyl-4-glycidyloxypiperidine 122413-85-8DP, reaction products with amino-containing polymer 184946-33-6DP, reaction products with amino-containing polymer **330445-35-7P** 330445-36-8P
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); **PREP (Preparation)**; USES (Uses)
(polymeric **stabilizers** with high affinity to **pulp**)

IT 111-40-0, Diethylenetriamine
RL: RCT (Reactant); RACT (Reactant or reagent)
(polymeric **stabilizers** with high affinity to **pulp**)

IT **330445-35-7P**
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); **PREP (Preparation)**; USES (Uses)
(polymeric **stabilizers** with high affinity to **pulp**)

RN 330445-35-7 HCAPLUS

CN 1,2-Ethanediamine, N-(1-hydroxy-2,2,6,6-tetramethyl-4-piperidinyl)-N'-[2-[(1-hydroxy-2,2,6,6-tetramethyl-4-piperidinyl)amino]ethyl]- (9CI) (CA INDEX NAME)



RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 7 OF 10 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1975:458820 HCAPLUS Full-text

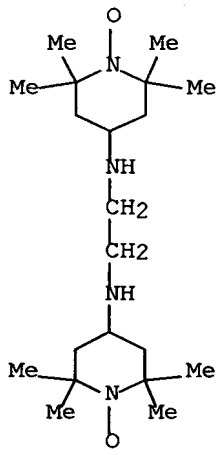
DN 83:58820
TI 2-Imidazolinyl-3-oxide-1-oxypropionic acid
IN Schneider, Richard S.; Ullman, Edwin F.
PA Synvar Associates, USA
SO U.S., 13 pp. Division of U.S. 3,749,644 (CA 79;133984b).
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3873564	A	19750325	US 1972-287168	19720907
	US 3749644	A	19730731	US 1971-120726	19710303
PRAI	US 1971-120726	A3	19710303		

GI For diagram(s), see printed CA Issue.
AB About 10 **stable** nitronyl nitroxides, useful for assaying enzymes by change of their ESR spectra when subjected to enzymatic reactions, were prepared E.g., 0.74 g 2-(2-pyridyl)-4,4-diethoxybutanol, obtained by reduction of the Et ester of the corresponding acid, was treated with 9.0 ml 0.69 M cyanoethyl phosphate and then 0.5 g HONHCMe2CMe2NHOH at 25° to give 500 mg the phosphate I.
IC C07D
INCL 260309600
CC 28-10 (Heterocyclic Compounds (More Than One Hetero Atom))
Section cross-reference(s): 7, 34
ST enzyme assay; nitronyl nitroxide; ESR nitronyl nitroxide
IT Enzymes
RL: RCT (Reactant); RACT (Reactant or reagent)
(assay by reaction with nitronyl nitroxides, electron spin resonance in relation to)
IT Electron spin resonance
(of nitronyl nitroxides, enzyme assay in relation to)
IT Radicals, properties
RL: PRP (Properties)
(spin labels, ESR of, enzyme assay in relation to)
IT 546-67-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(acetoxylation by, of 4-methyl-1-tetralone)
IT 19832-98-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(acetoxylation of)
IT 40525-55-1P 40525-63-1P 40525-69-7P **50695-16-4P**
50695-19-7P 50695-20-0P 50695-21-1P 50695-22-2P 50813-37-1P
56389-78-7P
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(preparation and enzyme assay by)
IT 40525-71-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and hydrolysis of)
IT 40525-59-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction with cyanoethyl phosphate)
IT 56375-03-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction with dimethyl bis(hydroxylamino)butane)
IT 40525-58-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

(Reactant or reagent)
(preparation and reduction of)
IT 40525-60-8P 56336-91-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
IT 56336-90-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with propionaldehyde)
IT 40525-66-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with 2,3-dimethyl-2,3-bis(hydroxylamino)butane)
IT 2032-35-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with 2-pyridylacetate)
IT 14384-45-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with 4,4-diethoxy-2-(2-pyridyl)butyl phosphate)
IT 13139-15-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with 4,4-diethoxy-2-(o-benzyloxyphenyl)butylamine)
IT 542-58-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with 5-(methylbutyl)-5-(1,3-dioxy-4,4,5,5-tetramethyl-4,5-dihydro-2-imidazolylmethyl)barbituric acid)
IT 13726-67-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with aminotetramethylpiperidine-1-oxyl)
IT 22446-37-3 40525-65-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with bromoacetaldehyde diethyl acetal)
IT 17773-10-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with chloroformic 2-(methoxymethoxyphenyl)-4,4-diethoxybutyric anhydride)
IT 2212-88-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with diethoxypyridylbutanol)
IT 123-38-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with diethoxypyridylpropane)
IT 56336-92-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with ethyl chloroformate)
IT 9005-82-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with formyl carboxytetramethylpyrrolinoxyl anhydride)
IT 541-41-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with methyl 2-(o-methoxymethoxyphenyl)-4,4-diethoxybutyrate)
IT 100-44-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with o-hydroxyphenylacetate)
IT 14691-88-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with tert-butoxycarbonyl-L-aspartic acid)
IT 39597-73-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with β-chloroethyl acetate)
IT 40525-72-2
RL: RCT (Reactant); RACT (Reactant or reagent)

(ring cleavage of)
IT **50695-16-4P**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(preparation and enzyme assay by)
RN 50695-16-4 HCAPLUS
CN 1-Piperidinyloxy, 4,4'-(1,2-ethanediyldiimino)bis[2,2,6,6-tetramethyl- (9CI) (CA INDEX NAME)



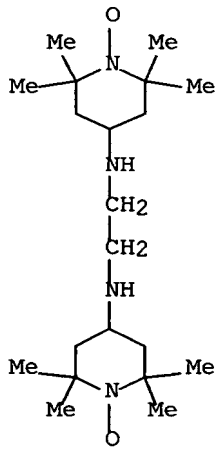
L26 ANSWER 8 OF 10 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1973:533984 HCAPLUS Full-text
DN 79:133984
TI Enzyme assay by metering changes of **stable** free radicals
IN Schneider, Richard S.; Ullman, Edwin F.
PA Synvar Associates
SO U.S., 11 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3749644	A	19730731	US 1971-120726	19710303
	US 3873564	A	19750325	US 1972-287168	19720907
PRAI	US 1971-120726	A3	19710303		

GI For diagram(s), see printed CA Issue.
AB The method for assaying enzymes consists of introducing into a solution suspected of containing an enzyme a free radical (I). R1-4 are organic radicals bonded through C to the C atoms of the ring; n' is either 0 or 1; X', Y', and Z' are chosen so that at least 1 of the groups has an enzyme-labile group, so that on chemical conversion of the enzyme-labile group, the degree of asymmetry changes about the central C atom. Any change in the ESR spectrum of the compound is determined, and the enzyme activity is then determined from this change. Thus, for example, 3-(4,4,5,5-tetramethyl-2- imidazolinyl 3-oxide 1-oxyl)-2-(2-pyridyl)propyl phosphate (II) was synthesized. For assaying alkaline phosphatase, 300 IU/ml was added to a dilute solution of the phosphate-free radical prepared above in pH 8.5 buffer. The solution was mixed, transferred to an ESR capillary, and introduced into the ESR cavity. Within 2 min, no phosphate radical could be detected by ESR. Both ESR and thin-layer chromatog. of the product confirmed complete conversion to alc.

Methods are given for similarly determining leucine aminopeptidase, choline esterase, amylase, and glutamic-pyruvic transaminase.

IC G01N
INCL 195103500R
CC 7-1 (Enzymes)
Section cross-reference(s): 28
ST enzyme detn ESR; free radical ESR enzyme
IT Enzymes
RL: ANT (Analyte); ANST (Analytical study)
(determination of, **stable** free radical determination in)
IT Radicals, uses and miscellaneous
RL: USES (Uses)
(in enzyme determination)
IT 9000-86-6 9000-92-4 9001-08-5 9001-61-0 9001-78-9
RL: ANT (Analyte); ANST (Analytical study)
(determination of, **stable** free radical determination in)
IT 40525-55-1P 40525-63-1P 40525-69-7P **50695-16-4P**
50695-19-7P 50695-20-0P 50695-21-1P 50695-22-2P 50695-23-3P
50813-37-1P
RL: **PREP (Preparation)**
(preparation of)
IT **50695-16-4P**
RL: **PREP (Preparation)**
(preparation of)
RN 50695-16-4 HCAPLUS
CN 1-Piperidinyloxy, 4,4'-(1,2-ethanediyldiimino)bis[2,2,6,6-tetramethyl-
(9CI) (CA INDEX NAME)



L26 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1972:448160 HCAPLUS Full-text
DN 77:48160
TI Synthesis of dinitroxides
AU Joss, Urs R.; Calvin, Melvin
CS Lawrence Radiat. Lab., Univ. California, Berkeley, CA, USA
SO Journal of Organic Chemistry (1972), 37(12), 2015-18
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA English

AB Synthesis of 7 **stable** nitroxide biradicals was completed. Five of these compds., namely, N-(1-oxyl-2,2,6,6-tetramethylpiperidyl)-N'-(1- oxyl-2,2,6,6-tetramethyl-4-methoxycarbonylpiperidyl)urea, 1-oxyl-2,2,5,5-tetramethylpyrrolyl-4-N-(1-oxyl-2,2,5,5-tetra- methylpyrrolidyl-3-methylene)carboxamide, 1-oxyl-2,2,5,5- tetramethylpyrrolidine-3-N-(1-oxyl-2,2,6,6-tetramethylpiperidyl- 4)carboxamide, 1,2-bis(1-oxyl-2,2,6,6-tetramethyl-4-methoxy- carbonylpiperidyl-4)oxalic acid diamide, and 1,2-bis(1-oxyl-2,2,6,6- tetramethylpiperidyl-4)succinic acid diamide, fulfill the 2 conditions which are postulated for their application as a flexible strain gauge in biol. material: a distance of 7 to 11 Å between the 2 radical units in order to guarantee an interaction between the 2 unpaired electrons and a certain rigidity in the connecting chain in order to achieve a high resolution of the ESR spectrum.

CC 27-17 (Heterocyclic Compounds (One Hetero Atom))

ST nitroxide biradicals; piperidine nitroxide radical

IT Electron spin resonance
(of dinitroxides, in relation to mol. geometry)

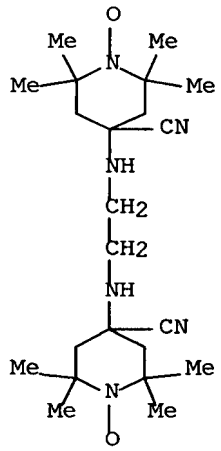
IT Molecular structure-property relationship
(spectra, of dinitroxides)

IT 21184-43-0P 32923-90-3P **34386-54-4P** 34386-55-5P
34386-56-6P 34386-57-7P 34386-59-9P 34402-55-6P 34402-56-7P
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(preparation of)

IT **34386-54-4P**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(preparation of)

RN 34386-54-4 HCAPLUS

CN 1-Piperidinyloxy, 4,4'-(1,2-ethanediyldiimino)bis[4-cyano-2,2,6,6-tetramethyl- (9CI) (CA INDEX NAME)



L26 ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1968:478173 HCAPLUS Full-text

DN 69:78173

TI Polyolefin stabilizers

PA Sankyo Co., Ltd.; Asahi Chemical Industry Co., Ltd.

SO Fr., 3 pp.
CODEN: FRXXAK

DT Patent

LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 1501582		19671110	FR 1966-84942	19661125
	DE 1694905			DE	
	GB 1130799			GB	
	US 3431232		19690304	US	19660125
PRAI	JP		19651126		

GI For diagram(s), see printed CA Issue.

AB Polyethylene and polypropylene (I) are **stabilized** against **light** deterioration by use of II (R = Bu, cyclohexyl, ureido, or p-toluidino) and III (R = CH2CH2, (CH2)6, or p-phenylene). Thus, I containing 0.25% II (R = Bu) had a higher **stability** when exposed to uv **light** at 45° than when Tinuvin P or 2,4-dihydroxybenzophenone was used as stabilizer.

IC C08F

CC 36 (Plastics Manufacture and Processing)

ST iminopiperidinols stabilizers polyolefins; polyolefin **light stabilizers; light stabilizers** polyolefin; polyethylene **light stabilizers;** polypropylene **light stabilizers;** oxypiperidines stabilizers polyolefins

IT Light, ultraviolet, chemical and physical effects
(stabilizers, for olefin polymers, piperidine N-oxide derivs. as)

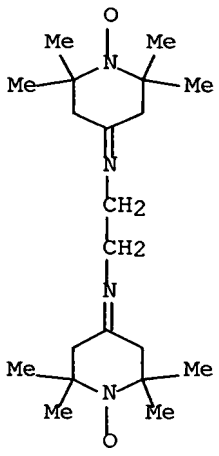
IT 18790-85-7 18790-86-8 18790-88-0 **18790-89-1** 18790-90-4 18790-91-5 18846-66-7 21216-79-5
RL: USES (Uses)
(as **light** (uv) **stabilizer,** for olefin polymers)

IT 9002-88-4, uses and miscellaneous 9003-07-0, uses and miscellaneous
RL: USES (Uses)
(ultraviolet stabilizers for, piperidine N-oxide derivs. as)

IT **18790-89-1**
RL: USES (Uses)
(as **light** (uv) **stabilizer,** for olefin polymers)

RN 18790-89-1 HCAPLUS

CN Piperidinooxy, 4,4'-(ethylenedinitrilo)bis[2,2,6,6-tetramethyl- (8CI) (CA INDEX NAME)



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